

TYGON B-44-4X

The only choice for phthalate-free flexible tubing

Ensuring a bacterial-free fluid path in a wide variety of food processing applications.

Tygon S3™ B-44-4X from Saint-Gobain Performance Plastics is now phthalate-free. Saint-Gobain is proud to be among the first companies to offer sustainable flexible tubing products. The bio-based Tygon S3™ line combines the high performance standards customers demand with an eco-friendly tubing design.

Preferred Tubing of the Food Industry

Producers of food, milk and dairy products insist upon Tygon S3™ B-44-4X for dependable performance in countless filling, draining, transfer and processing applications. Its smooth, non-porous bore inhibits particle entrapment, promoting a sanitary fluid path by minimizing potential for bacterial growth. It has outstanding resistance to harsh alkaline cleaners and is equally unaffected by commonly used sanitizers.

Lightweight and Flexible

Light in weight and easy to handle, Tygon S3™ B-44-4X can be put into service quickly. It readily bends to accommodate abrupt corners and obstructions, requiring a minimum of couplings and fittings. Its flexibility can save up to one-third the footage and much of the labor required to install rigid stainless steel or plastic piping.

Available in Large Bore Sizes

Tygon S3™ B-44-4X is available in large bore sizes up to 6" inside diameter, making it a flexible alternative to rigid piping systems. It offers complete clarity for positive visual inspection and flow control.

Reinforced Tubing Available for Elevated Pressure

A special construction of Tygon S3™ B-44-4X is also available to meet applications involving elevated pressure. In these instances, select Tygon® Pressure Tubing, Formulation B-44-4X I.B.

Tygon® Pressure Tubing has the identical product features found in Tygon S3™ B-44-4X, with reinforcement added to withstand up to four times the pressure.

Regulatory Standards

Tygon S3™ complies with FDA, NSF, 3-A, Japan Food Sanitation Law # 370/1959, REACH, 1935/2004/EC and 10/2011/EU for many foods and beverages. Tygon S3™ tubing products do not contain chemicals listed in California's Proposition 65.

* For complete compliance information and appropriate use instructions, please refer to the detailed document of compliance. The complete compliance information and use instructions can be found at www.TygonS3.com.



Tygon S3™ B-44-4X Features/Benefits

- Smooth, non-porous bore will not trap particulates or promote bacterial growth
- Compatible with foods containing a high oil content
- Resistant to harsh alkaline cleaners and sanitizers
- Excellent alternative to rigid piping systems
- Contains no BPA or phthalates

Typical Applications*

- Aseptic filling
- Condiment dispensing
- Dairy processing
- Vitamin and flavor concentrate systems
- Soft-serve dispensing

Typical Physical Properties

| Property | ASTM Method | Value or Rating |
|---|---------------|-----------------|
| Durometer Hardness (Shore A), 15 Sec | D2240 | 66 |
| Tensile Strength, psi (MPa) | D412 | 2,200 (15.8) |
| Ultimate Elongation, % | D412 | 390 |
| Tear Resistance, lb-f/inch (kN/m) | D1004 | 250 (43.8) |
| Specific Gravity | D792 | 1.21 |
| Water Absorption, % 24 hrs. @ 73°F (23°C) | D570 | 0.22 |
| Compression Set Constant Deflection, % @ 158°F (70°C) for 22 hrs. | D395 Method B | 59 |
| Brittleness Temp., °F (°C) | D746 | -32 (-36) |
| Maximum Recommended Operating Temp. °F (°C) | - | 165 (74) |
| Tensile Stress @ 200% Elongation, psi (MPa) | - | 1,379 (9.5) |
| Tensile Set, % | D412-98 | 57 |
| Color | - | Clear |

The values listed for working and burst pressures are derived from tests conducted under controlled laboratory conditions. Many factors will reduce the tubing's ability to withstand pressures, including temperature, chemical attack, stress, pulsation and the attachment to fittings. It is imperative that the user conduct tests simulating the conditions of the application prior to specifying the tubing for use.

TYGON S3™ B-44-4X TUBING IS NOT INTENDED FOR USE AS AN IMPLANT MATERIAL.

Tygon S3™ B-44-4X

| Saint-Gobain Part Number | I.D. | O.D. | Minimum Bend Radius, in | Max. Working Pressure at 73°F, psi | Vacuum Rating In. of Mercury at 73°F |
|--------------------------|-------|--------|-------------------------|------------------------------------|--------------------------------------|
| AAA00001 | 1/32 | 3/32 | 1/8 | 100 | 29.9 |
| AAA00002 | 1/16 | 1/8 | 1/4 | 60 | 29.9 |
| AAA00003 | 1/16 | 3/16 | 1/8 | 100 | 29.9 |
| AAA00004 | 3/32 | 5/32 | 3/8 | 43 | 29.9 |
| AAA00006 | 1/8 | 3/16 | 1/2 | 34 | 25.0 |
| AAA00007 | 1/8 | 1/4 | 3/8 | 60 | 29.9 |
| AAA00009 | 5/32 | 7/32 | 3/4 | 28 | 16.0 |
| AAA00010 | 5/32 | 9/32 | 1/2 | 50 | 29.9 |
| AAA00011 | 3/16 | 1/4 | 1 | 25 | 11.0 |
| AAA00012 | 3/16 | 5/16 | 5/8 | 43 | 29.9 |
| AAA00013 | 3/16 | 3/8 | 1/2 | 60 | 29.9 |
| AAA00017 | 1/4 | 3/8 | 1 | 34 | 25.0 |
| AAA00018 | 1/4 | 7/16 | 3/4 | 47 | 29.9 |
| AAA00019 | 1/4 | 1/2 | 5/8 | 60 | 29.9 |
| AAA00022 | 5/16 | 7/16 | 1-3/8 | 28 | 16.0 |
| AAA00023 | 5/16 | 1/2 | 1 | 40 | 29.9 |
| AAA00024 | 5/16 | 9/16 | 7/8 | 50 | 29.9 |
| AAA00025 | 5/16 | 5/8 | 3/4 | 60 | 29.9 |
| AAA00027 | 3/8 | 1/2 | 1-3/4 | 25 | 11.0 |
| AAA00028 | 3/8 | 9/16 | 1-3/8 | 34 | 25.0 |
| AAA00029 | 3/8 | 5/8 | 1-1/8 | 44 | 29.9 |
| AAA00032 | 7/16 | 9/16 | 2-1/4 | 22 | 8.0 |
| AAA00033 | 7/16 | 5/8 | 1-3/4 | 30 | 19.0 |
| AAA00036 | 1/2 | 5/8 | 2-1/8 | 19 | 6.0 |
| AAA00037 | 1/2 | 11/16 | 2-1/8 | 27 | 14.0 |
| AAA00038 | 1/2 | 3/4 | 1-3/4 | 34 | 25.0 |
| AAA00039 | 1/2 | 13/16 | 1-1/2 | 40 | 29.9 |
| AAA00041 | 9/16 | 3/4 | 2-1/2 | 25 | 11.0 |
| AAA00045 | 5/8 | 13/16 | 3 | 23 | 9.0 |
| AAA00046 | 5/8 | 7/8 | 2-3/8 | 29 | 16.0 |
| AAA00047 | 5/8 | 15/16 | 2 | 35 | 26.0 |
| AAA00053 | 3/4 | 1 | 3-1/4 | 25 | 11.0 |
| AAA00054 | 3/4 | 1-1/16 | 2-3/4 | 30 | 18.0 |
| AAA00055 | 3/4 | 1-1/8 | 2-3/8 | 34 | 26.0 |
| AAA00057 | 3/4 | 1-1/4 | 2 | 43 | 29.9 |
| AAA00059 | 7/8 | 1-1/8 | 4-1/8 | 22 | 8.0 |
| AAA00062 | 1 | 1-1/4 | 5-1/8 | 20 | 6.0 |
| AAA00063 | 1 | 1-5/16 | 4-3/8 | 24 | 10.0 |
| AAA00064 | 1 | 1-3/8 | 3-3/4 | 27 | 14.0 |
| AAA00065 | 1 | 1-1/2 | 3 | 34 | 25.0 |
| AAA00067 | 1-1/8 | 1-3/8 | 6-1/4 | 18 | 5.0 |
| AAA00070 | 1-1/4 | 1-5/8 | 5-1/2 | 23 | 9.0 |
| AAA00073 | 1-1/2 | 1-7/8 | 7-1/4 | 19 | 6.0 |
| AAA00074 | 1-1/2 | 2 | 5-7/8 | 25 | 11.0 |
| AAA00078 | 2 | 2-1/2 | 9-3/8 | 19 | 6.0 |
| AAA00079 | 2 | 2-3/4 | 6-7/8 | 27 | 14.0 |
| AAA00080 | 2 | 3 | 5-1/2 | 34 | 25.0 |
| AAA05082 | 2-1/2 | 3 | 13-3/8 | 16 | 4.0 |
| AAA05083 | 2-1/2 | 3-1/4 | 10 | 23 | 9.0 |
| AAA05085 | 3 | 3-1/2 | 18 | 14 | 2.0 |
| AAA05086 | 3 | 3-3/4 | 13-1/4 | 19 | 6.0 |
| AAA05088 | 4 | 5 | 17 | 19 | 6.0 |
| AAA05318 | 6 | 6-1/2 | 55-3/8 | 8 | 0.5 |

Working pressures are calculated at a 1:5 ratio relative to burst pressure using ASTM D1599.

Unless otherwise noted, all tests were conducted at room temperature (73°F). Values shown were determined on 0.075" thick extruded strip or 0.075" thick molded ASTM plaques or molded ASTM durometer buttons.



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IMPORTANT: It is the user's responsibility to ensure the suitability and safety of Saint-Gobain Performance Plastics tubing for all intended uses. Laboratory and clinical tests must be conducted in accordance with applicable regulatory requirements in order to determine the safety and effectiveness for use of tubing in any particular application.

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